



[R246US2

Mirror having a portion in the form of an information
provider]



MIRROR HAVING A PORTION IN THE FORM OF
AN INFORMATION PROVIDER

5

BACKGROUND OF THE INVENTION

The present invention concerns a mirror with a non-reflective portion provided within its reflective surface, as an information provider.

DE 299 16 732 U1 depicts as state of the art an
10 advertising mirror with a mirror layer which is semi-transparent at least in a portion thereof. In that advertising mirror in accordance with the invention at least in the portion serving as the advertising or information surface, the mirror layer is followed in the direction from
15 the outside of the mirror towards the rear side thereof by an anti-reflection layer, an advertising layer comprising a transparent flat material, and a lighting member of a flat configuration. That arrangement suffers basically from the following problems: the communication of information is
20 limited to a stationary image or still image which is back-lit in the form of a motif carrier to be introduced - for example a transparency - and in that way is rendered visible to the person viewing same; exchanging the individual motif carriers is complicated and difficult as, to introduce fresh
25 motif carriers or items of information to be communicated, the mirror has to be open and the existing motif carrier has to be manually replaced by a new one.

With knowledge of that state of the art, the object of the present invention is to eliminate the recognized
30 deficiencies and to provide a mirror which differs in regard to previously known advertising mirrors in the nature of and possible variations in the items of graphic information to

be communicated, and which permits ease of handling when introducing and changing the items of information or the motif carriers.

5 [That object is attained by the teaching of the independent claim; the appendant claims set forth advantageous developments. The scope of the invention also embraces all combinations comprising at least two of the features disclosed in the description, the drawing and/or the claims.]

10

SUMMARY OF THE INVENTION

The foregoing object is attained by providing a mirror with a non-reflective portion provided within its reflective surface as an information provider, wherein at least a
15 portion of the mirror surface is transparent for seeing therethrough and is backed by a display.

In accordance with the invention the portion of the mirror surface, which is in the form of the information provider, is as clear as glass, that is to say completely
20 transparent for seeing therethrough, and is backed with a display, an image viewer for optically effectively presenting objects. In particular that display should be capable of presenting a moving image. Two or more portions of that kind may also be provided in the mirror surface.

25 The semi-transparent mirror layer known from the state of the art is therefore the subject of development in that a moving image - preferably a colored image - is now produced within the actual mirror surface in that portion.

In accordance with the invention, a moving colored
30 image is used for communicating information by virtue of that color display. In order to keep the thickness of the

mirror as small as possible, in accordance with the invention a flat image display or flat screen is to be used. It has also proven to be advantageous to use a display of [TFT] thin film transistor (TFT) or plasma technology type, 5 but also it is possible to use other technologies for motif representation purposes, such as for example holograms for three-dimensional image representation. In particular it is also possible to use a display involving touch screen technology which makes it possible to call up various 10 functions and program procedures on the display and also the representation of different kinds of images such as for example television pictures, computer images and animation, an Internet surface and a multi-media surface, in the display or information surface provided for that purpose.

15 The inventor also proposes the communication of audio elements; the incorporation of at least one loudspeaker - preferably connected to the display or another peripheral device for operation of the display such as for example a PC, video recorder or DVD-player - makes it possible to 20 communicate audio elements such as for example music, a speech backing or the like. The audio elements can be reproduced both alone and also - preferably - in conjunction with the image information.

The form of feeding in information is to be 25 considerably facilitated for the purposes of greater ease of handling, and it is to be ensured that the mirror does not have to be opened nor does a person have to be physically present in order to input data or fresh motifs into the information mirror. For that purpose, the installed display 30 and the loudspeakers are supplied with the items of information to be represented from a suitable peripheral

device - once again a computer, video recorder, DVD-player, CD-player or the like. In order to change the items of information to be communicated, it is just the inserted reproduction medium that is changed, that is to say for
5 example the video cassette of the video recorder.

In general, a computer is used for operation of the display and the loudspeakers, in which case the items of information and data to be represented can be transferred onto that computer from another computer by data transfer -
10 for example [ISDN] integrated services digital network (ISDN) data transmission or other transmission options.

The foregoing features mean that opening of the mirror is now no longer necessary when changing the information or the motif, so that it becomes possible for the mirror to be
15 fixedly installed at suitable locations. The change in motif can also be effected in the absence of an operator.

In accordance with the invention, break-proof glass can preferably be used for the mirror, and volume control for the loudspeaker or loudspeakers can also be effected by
20 means of remote control - for example infra-red control. In addition it has proven to be desirable to install a radio receiver module for the graphic data or to mount the described loudspeakers outside the mirror and connect them to the display or input unit.

25 That therefore affords a communication mirror of variable size of a very flat frame structure, in which changing or replacing the items of information is readily possible by virtue of a change in data carrier in the input device.

30

BRIEF DESCRIPTION OF THE DRAWINGS

Further advantages, features and details of the invention will be apparent from the description hereinafter of preferred embodiments and with reference to the drawing
5 in which:

Figure 1 shows a perspective view of a framed mirror,

Figure 2 shows a perspective view of the rear side of the mirror after removal of a rear wall,

Figures 3 and 4 show views corresponding to Figure 1
10 and Figure 2 respectively in relation to a frame-less configuration of the mirror, and

Figure 5 shows a perspective view of the front of a mirror with additional devices.

DETAILED DESCRIPTION

15 A wall mirror 10 of a length a for example of about 140 cm and a height h of 80 cm has a frame 12 of metal or plastic material - possibly also of wood - of a width b of between about 3 and 5 cm.

20 The frame 12 is composed to two channel-shaped longitudinal profile members 14 and two shorter transverse profile members 14_q of identical cross-section - forming mitered corners 18; the rearward limb portions 15 of the frame profile members 14, 14_q define a mounting plane for a
25 rear wall (not shown in the drawing), while the front limbs 16 of the frame members form a frame-shaped abutment for a mirror insert 20 which is held within same in the frame 12.

Provided in the mirror surface 22 of the mirror insert 20 at spacings e , e_1 in relation to the adjacent limbs 16 of
30 the profile members is an area 26 through which it is possible to see - having been left free for example upon

chemical deposition of a backing or silver layer 24 - , the length a_1 of the area 26 being in this case about 30 cm and its height h_1 being about 24 cm, while associated therewith at the rear thereof is an electronic color display 28; the
5 latter is screwed to transverse struts 19 of the frame 12 which in turn are fixed at their ends to the rearward limb portions 15 of the profile members. Provided beside the color display 28 in Figure 2 is a cooling device 30 - for example a cooling fan - which is also mounted to the
10 transverse struts 19.

Indicated at 32 above the display 28 is a control board which permits actuation of the display 28 with an external input device 50 which is shown in Figure 5, such as a computer, video, DVD, CD or the like. Projecting from the
15 control board 32 are a cable connecting plug 34 for a cable 48 - for example a cinch connecting cable - of the input device 50 and a mains network connecting plug 36 for the power supply for the color display 28 and the cooling device 30 by way of the connecting cable 37 of a power source 54.

20 The control board 32 is mounted to the transverse profile member 14_q which is adjacent thereto, and disposed opposite it on the other transverse profile member 14_q of the frame 12 in the interior 40 of the mirror is a loudspeaker 38 which fits closely against a region 42 of the
25 frame 12 - which region 42 is perforated or provided with a slot or aperture insert - and the loudspeaker is provided with connection elements 44 for external devices. The interior 40 of the mirror is closed to prevent unauthorized access by a rear wall (which as mentioned is not shown in
30 the drawing) comprising a metal, wood or plastic plate or

panel, and it can be opened by actuating a cylinder lock 46 of the frame 12.

In the embodiment of the mirror 10_a in Figures 3 and 4 the area of the mirror insert 20 is larger than the frame 12 in front of which the mirror insert 20 is fitted; the latter projects beyond the edges of the frame 12 on all sides by a distance i.

In accordance with the invention the multi-media mirror can also be integrated into items of furniture, bars and counters, mirror-bearing cupboards or cabinets or the like.

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Exhibit A

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ISDN

Last modified: Thursday, September 19, 2002

Abbreviation of *integrated services digital network*, an international communications standard for sending voice, video, and data over digital telephone lines or normal telephone wires. ISDN supports data transfer rates of 64 Kbps (64,000 bits per second).

There are two types of ISDN:

- Basic Rate (BRI) ISDN -- consists of two 64-Kbps B-channels and one D-channel for transmitting control information.
- Primary Rate ISDN -- consists of 23 B-channels and one D-channel (U.S.) or 30 B-channels and one D-channel (Europe).

The original version of ISDN employs baseband transmission. Another version, called B-ISDN, uses broadband transmission and is able to support transmission rates of 1.5 Mbps. B-ISDN requires fiber optic cables and is not widely available.

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ISDN

Related Terms

ADSL

ANI

B-channel

BRI

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D-channel

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TFT

Last modified: Thursday, August 30, 2001

Abbreviation of *thin film transistor*, a type of LCD flat-panel display screen, in which each pixel is controlled by from one to four transistors. The TFT technology provides the best resolution of all the flat-panel techniques, but it is also the most expensive. TFT screens are sometimes called *active-matrix LCDs*.

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Home page of the Thin Film Transistor Research Group at the Rensselaer Polytechnic Institute. Contains information on their development and research efforts, personnel, and publications.

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